

# Characteristics of Large Medical Expenses

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*Urban families spending \$1,000 or more for medical care in 1950 devoted a far larger share of their medical dollar to hospital and nursing services than did the average urban family. In more than 4 out of 5 of these families at least one member was hospitalized during the year. For these members the average length of hospital stay was about 27 days, as compared with an average stay in all short-term hospitals in 1950 of 8.1 days.*

*The \$1,000 or more out-of-pocket medical expense was usually attributable to the medical care spending of a single family member. Again in more than 4 out of 5 families there was a single member with a medical care outlay of \$500 or more. The remaining families fall about equally into two groups, large families with expenditures of \$200 or more for several individuals in the family and small families with two or more members with expenses totaling \$500 or more.*

CURRENT interest in major medical insurance has focused attention on families who in any single year incur heavy medical expenses. A number of questions have been raised about the composition and characteristics of such expenses. To provide some answers to these questions, the Public Health Service has studied a stratified subsample of schedules of family income and expenditures obtained by the Bureau of Labor Statistics in its 1950 survey of spending habits of urban consumers.

In all, only 1.3 percent of urban families reported out-of-pocket medical care expenditures of \$1,000 or more, including premiums paid for voluntary health insurance but excluding the value of any benefits received. This percentage is the equivalent of about 400,000 urban families, with 1.4 million family members.

Medical care expenses of these families, however, totaled about \$655 million, or about 10.6 percent of the estimated \$6.2 billion total out-of-pocket expenses of urban families. Of this \$655 million, about two-thirds was spent by families with medical care costs of \$1,000 to \$2,000 and one-third, by those spending \$2,000 or more.

## Study Methods

The methodology of the Bureau of Labor Statistics survey and that of the Public Health Service special study of a stratified subsample of the schedules obtained in this survey were summarized in an earlier report (1). The subsample used in the special study included some 2,414 consumer units (and 7,639 persons) out of the total 12,489 consumer units interviewed by the Bureau of Labor Statistics. It included, however, all schedules on which out-of-pocket medical care costs of \$1,000 or more were reported by the family. In all, there were 165 consumer units, composed of 553 persons, in the \$1,000-or-more category. Information from these schedules was weighted to adjust for the regional variation in sampling ratios. The tabulated figures adjusted in accordance with weights developed by the Bureau of Labor Statistics form the basis of the estimates presented here.

Use of a sample of this size necessarily involves considerable random error due to sampling. In this survey, there are additional important sources of error in that a single family respondent may have reported family expendi-

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tures for all family members and reports were made for the entire preceding year.

### Types of Services

What types of health services are purchased by families spending \$1,000 or more?

The medical care bills of families spending \$1,000 or more have a very different health service content from that of the average urban family's medical bill. A far larger than average portion of their out-of-pocket medical expenses goes for hospital services and for special duty nursing. A smaller than average portion represents payments for dental services and for drugs.

While the average urban family spends about 12 cents of its medical out-of-pocket dollar for hospitalization (excluding services paid or reimbursed by voluntary insurance plans and those publicly financed), families with bills of \$1,000 or more spend more than 30 cents of their medical dollar for hospital services. Special duty nursing, which accounts for only 2 cents of each \$1 spent for medical care for all urban families, represents 14 cents of each \$1 of out-of-pocket medical expense for families with medical bills of \$1,000 or more. The average expenditure for special nursing services for these families exceeds the total amount spent for all medical care by the average urban family (table 1).

Within these averages there is a wide variation in distribution of out-of-pocket medical costs among classes of health services. This variation depends upon such factors as the nature of the illness, the level of family income, the size of the family and other family circumstances, entitlement to care under public or other programs, and eligibility for benefits under health insurance plans. About 8 out of each 10 families spending \$1,000 or more report at least one episode of hospitalization during the year. In some instances the expense of the hospitalized illness, including both hospital bill and physician services, accounts for a large share of the total family medical care expenditure. Length of hospital stay averages approximately 27 days for these hospitalized family members, as compared with an average length of stay in short-term general and special

hospitals for the whole United States population in 1950 of 8.1 days (2). (In assessing these lengths of stay, account must be taken of the fact that some long-term hospital care is included in the Bureau of Labor Statistics schedule information.)

**Table 1. Distribution of annual out-of-pocket medical expenses, by type of health service, for all urban families and families with medical expenditures of \$1,000 or more, 1950**

Type of service	All families <sup>1</sup>		Families spending \$1,000 or more	
	Average	Per-cent	Average	Per-cent
Total.....	\$197	100.0	\$1,573	100.0
Insurance premiums.....	34	17.3	55	3.5
Physicians.....	63	32.0	489	31.1
Hospitals.....	23	11.7	491	31.2
Dentists.....	30	15.2	110	7.0
Nurses.....	4	2.1	218	13.9
Drugs.....	28	14.3	122	7.7
All other.....	15	7.4	88	5.6

<sup>1</sup> Data for all urban families based on Bureau of Labor Statistics tabulations of entire sample, rather than Public Health Service subsample.

However, there are some families with \$1,000 or more of out-of-pocket expenses in which no member of the family was hospitalized during 1950. As may be expected, physicians' services in the home or office account for the largest part of nonhospitalized illness expense. For approximately 5 percent of the families special nursing costs account for more than 66⅔ percent of out-of-pocket medical care expenditures. Dental services in some instances account for one-third or more of out-of-pocket expenses and range up to \$1,000 for individual families. These less frequent but nevertheless significant deviations from average medical expense burdens point to the need for broadening prepayment arrangements to encompass the broad range of services purchased by urban families (3, 4).

### Expenditures of Individual Family Members

Are large family medical expenses the result of a single expensive illness or are they the ac-

cumulation of sizable expenses for several family members?

The largest portion of urban families with out-of-pocket expenses of \$1,000 or more—almost 87 percent—reported outlays of \$500 or more for a single family member. For about 7 percent of the families there were 2 or more family members each with \$500 or more in medical care expenditures. The remaining families spending \$1,000 or more were relatively large families that had no member with medical expenses of as much as \$500 during the year.

While family expenditures of \$1,000 or more during a year appear to be primarily attributable to the expense of a single member of the family, it is important to note that about 47 percent of all members of these families spend at least \$200, which is more than 3 times the amount spent by the average urban resident. Similarly, about half of these families had 2 or more members with medical care expenditures of at least \$200.

The distribution of expenditures of members of families spending \$1,000 or more for medical care differs markedly from the distribution of amounts spent for medical care by the urban population as a whole (table 2). While 65 percent of the urban population report expenses of less than \$50 a year, only 25 percent of the persons in families spending \$1,000 or more

**Table 2. Percentage distribution of all urban residents and persons in urban families with medical expenditures of \$1,000 or more, by total out-of-pocket medical care expenditures, 1950**

Out-of-pocket medical care expenditures	Percent of all urban residents	Percent of persons in families spending \$1,000 or more
Total.....	100. 0	100. 0
None.....	17. 4	6. 0
\$1-\$49.99.....	47. 9	19. 3
\$50-\$99.99.....	17. 5	16. 2
\$100-\$199.99.....	10. 2	11. 8
\$200-\$299.99.....	3. 7	8. 0
\$300-\$499.99.....	2. 1	8. 9
\$500-\$999.99.....	1. 0	12. 8
\$1,000 and over.....	. 2	17. 0

**Table 3. Percentage distribution of all urban families and of urban families with medical expenditures of \$1,000 or more, by income class, 1950**

Income class	Percent of all urban families <sup>1</sup>	Percent of urban families spending \$1,000 or more
All income groups.....	100. 0	100. 0
Under \$2,000.....	18. 6	6. 6
\$2,000-\$3,999.....	42. 7	30. 2
\$4,000-\$5,999.....	26. 3	24. 3
\$6,000 and over.....	12. 4	38. 9

<sup>1</sup> Data for all urban families based on Bureau of Labor Statistics tabulation of entire sample, rather than Public Health Service subsample.

report expenditures in this range. Almost 30 percent of the persons in these families spend \$500 or more.

Two important factors associated with these variations in patterns of spending, apart from differences in illness experience and in utilization of medical services, are family income and age of family members.

The average city family spends about 5 percent of its \$4,000 income after taxes for medical care (1). Urban families spending \$1,000 or more for medical care have an average income of nearly \$7,000, but more than 20 percent of their income goes for medical care. However, the individual schedules for these families show a great variation in income (table 3) and in the percent of income spent for medical care. Medical expenses vary from about 3 percent of current income to many times current income.

Families with large medical care bills have a lower proportion of children and a higher proportion of older people than the average urban consumer unit. About one-third of the urban population in the Bureau of Labor Statistics sample are under 19 years of age, whereas only about one-quarter of the persons in families spending \$1,000 or more are in this age group. Also, there is a smaller percentage of persons aged 19-44 years in families spending at least \$1,000 than in the urban population as a whole. The percentage of people aged

**Table 4. Percentage distribution of all urban residents and of persons in urban families spending \$1,000 or more for medical care, by age group, 1950**

Age group (years)	Percent of all urban residents	Percent of persons in urban families spending \$1,000 or more
All ages-----	100. 0	100. 0
Under 6-----	12. 7	8. 7
6-18-----	19. 1	15. 7
19-44-----	38. 3	28. 0
45-64-----	21. 3	33. 4
65 and over-----	8. 6	14. 2

45 or over, however, is approximately half again as great in families spending \$1,000 as in the total urban population (table 4).

#### **Voluntary Health Insurance Coverage**

Are members of families with large medical bills covered under health insurance plans?

While families with large medical expense have higher than average incomes and include a larger than average proportion of older persons, they have about the same voluntary health insurance coverage as other families, measuring coverage only in terms of whether or not there is some participation in health insurance plans. The proportion of persons covered in each age group is approximately the same for all urban residents as for persons in families spending more than \$1,000 (table 5). For all ages combined, about 6 out of 10 persons are covered. In the older age groups, for all urban families as well as for families spending at least \$1,000 for medical care, the proportion covered is significantly lower than for younger age groups. Approximately 2 out of 6 persons aged 65 years or over in all urban families and about 2 out of 5 persons in this age group in families spending \$1,000 or more have some health insurance coverage. This finding of a decreasing proportion of coverage among the older age groups for urban residents parallels the data published in other studies, including the recent nationwide study of the Health Information Foundation (5,6,7a). The Health Information

Foundation found that in 1952-53, 57 percent of persons of all ages had hospital insurance; the proportion of persons covered declined to 54 percent in the age group 55-64 years and to 31 percent in the age group 65 years and over. The Health Information Foundation study includes rural as well as urban groups and relates to a later year.

The health insurance benefits for which members of families spending \$1,000 or more were eligible were patently not sufficiently broad in scope to cover the variety of medical services needed by these families. Health insurance coverage of those members who experienced a hospitalized illness was about the same as the coverage of all other members of the families spending \$1,000 or more and similar to the coverage of the urban population as a whole. About 56 percent of the members with hospitalized illnesses were covered under a health insurance plan. While data on amounts of health insurance benefits reported on the Bureau of Labor Statistics schedules are inadequate because of the volume of nonreporting, benefits shown on schedules (for which reports were made) averaged about 30 percent of the cost of the hospitalized illness. Included in this average are the cost of physician services, nursing care, and other expenses, as well as hospital charges. It must be remembered that interviewers of the Bureau of Labor Statistics

**Table 5. Percentage of all urban residents and of persons in urban families with medical care expenditures of \$1,000 or more with some health insurance coverage, by age group, 1950**

Age group (years)	Percent of all urban residents	Percent of persons in families spending \$1,000 or more
All ages-----	60. 7	60. 9
Under 6-----	59. 1	57. 2
6-18-----	60. 8	66. 3
19-44-----	65. 3	66. 7
45-64-----	62. 4	62. 8
65 and over-----	36. 6	41. 3
65-74-----	41. 8	-----
75 and over-----	25. 7	-----

## Distribution of Aggregate Medical Care Expenditures

The distribution of out-of-pocket medical care expenses of urban families in 1950 by class of service is compared with similar information from other sources in the accompanying tabular summary.

The Bureau of Labor Statistics survey findings are comparable to the distribution derived for out-of-pocket medical expense by the Health Information Foundation in its 1952-53 study. Differences between these data and other series are attributable primarily to the dissimilarity in definition of medical expense.

The Department of Commerce figures and the derived Social Security Administration estimates of personal medical care expenditures on which distributions usually published are based show gross private expenditures, including expenditures financed by families, by insurance plans, and, in some instances, by employers. The Bureau of Labor Statistics data presented here represent only family out-of-pocket expenses and exclude health insurance benefits received from the various plans and payments made directly or indirectly (through insurance plans) by employers. There are many other conceptual differences in the figures. Several preliminary analyses have been made which detail the

differences between a household survey estimate of medical expenses and the national aggregate estimates as prepared currently by the Department of Commerce (7*b*, 12-14).

### Comparison of percentage distributions of medical care expenditures by type of service <sup>1</sup>

Type of service	Bureau of Labor Statistics	Health Information Foundation	Department of Commerce	Social Security Administration
	Out-of-pocket expense <sup>2</sup>		Gross costs <sup>3</sup>	
Total-----	100	100	100	100
Physicians-----	39	38	37	32
Hospitals-----	14	12	20	27
Dentists-----	18	18	16	11
Drugs-----	17	17	15	18
Other-----	12	15	13	12

<sup>1</sup> Data relate to 1950, except the Health Information Foundation survey findings, which are for 1952-53.

<sup>2</sup> Excluding health insurance premiums paid.

<sup>3</sup> Excluding administrative and other net costs of health insurance coverage; including benefits paid by health insurance plans.

SOURCE: References 7*c*, 15, 16, and 17.

were concerned principally with out-of-pocket expense for the whole gamut of consumer goods and services and not with collecting the supplementary data included on the schedule.

Prepayment for medical care expense may be expected to change the shape of the distribution curve of medical expense. The percentage of families with large medical expense, for example, should be lower today than prior to the growth of voluntary health insurance. Voluntary health insurance premiums, on the one hand, and benefits provided, on the other, should have evened out the distribution of medical spending and reduced the incidence of the large medical bill. Many other changes—demographic, scientific, economic, and institutional—have influenced the distribution of families by size of medical expense. Differences in design and scope of survey and in definition and size of family units, as well as

sampling errors, particularly at the tail of the distribution for expenses of \$1,000 or more, however, make it difficult to compare 1928-31 findings of the Committee on the Costs of Medical Care and later family surveys (8, 9).

A crude analysis of the trends since 1928-31 points to the need for additional study of the change in importance of the large medical expense. Two questions in particular are suggested. Has the cost of major illness increased more than average family expense for medical care? Has the relative number of expensive illnesses decreased? There are a number of trends which affect medical care outlays in diverse ways. For example, costs of care for some types of illness are lower today than 25 years ago because of changes in the incidence and severity of these illnesses and changes in methods of treatment which involve shorter hospital stays, use of antibiotics, and other new

drug therapies (10, 11). However, improved medical procedures and therapies make for higher costs of care for other major illnesses, and the aging of the population increases the frequency of these illnesses.

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## Health Survey in the Great Plains Area

Extensive study by the Public Health Service of health needs in sparsely settled rural areas started July 1, 1957, with a survey of the health situation in Kit Carson County, Colo. Counties in the Great Plains area have been selected for the study because there are few local health departments in that area to serve the widely scattered farm population, and because farm incomes there have been affected adversely by drought and other severe weather variations.

The Kit Carson study will cover more than 1,500 families, with cooperation from the Colorado State Department of Public Health, local physicians, and county leaders.